SUPREME COURT OF THE UNITED STATES.

Nos. 35, 36.—October Term, 1936.

S. Harold Smith, Executor of the Estate of Samuel B. Smith, deceased, Petitioner, 35 *vs.* A. B. Hall and L. C. Hall, doing business as Hall Brothers.	On Writ of Certiorari to the United States Circuit Court of Appeals for the Second Circuit.
S. Harold Smith, Executor of the Estate of Samuel B. Smith, deceased, Petitioner, 36 *vs.* James Manufacturing Company and Elmira Hatcheries, Incorporation.	

[April 26, 1937.]

Mr. Justice Stone delivered the opinion of the Court.

These cases involve the validity of the Smith Patent No. 1,262,860, of April 16, 1918, and more particularly the question whether Smith was anticipated by the prior use of the patented invention by Hastings.

In *Smith* v. *Snow*, 294 U. S. 1 (1935), we held the patent valid and infringed. But in that case the Hastings prior use was not presented or considered. At that time the present infringement suits brought by petitioner against respondents Hall and James were pending in the district courts for Connecticut and for Western New York, respectively. In view of the definition given to the patent by our decision, the Hastings defense assumed an importance in these suits apparently not attributed to it in earlier litgation, and it has been developed in the records now before us more fully than in any earlier case.[1]

[1] Before the decision in Smith *v.* Snow, 294 U. S. 1, the Hastings defense had been considered and rejected in Buckeye Incubator Co. *v.* Wolf, 291 Fed. 253, aff'd, 296 Fed. 680 (C. C. A. 6th), in Buckeye Incubator Co. *v.* Cooley, 17 F. (2d) 453 (C. C. A. 3rd), and in Buckeye Incubator Co. *v.* Stone, a suit in the District Court for Oregon, by a special master's report, which does not appear to have been reviewed by the court. In the numerous other litiga-

The decrees of the district courts rejecting the defense were reversed by the Court of Appeals for the Second Circuit, 83 F. (2d) 217, 221, which found prior use by Hastings. We brought the cases here on certiorari, — U. S. —, to resolve the conflict in the result of the decisions below with that of our decision in *Smith* v. *Snow*, *supra*. The two suits came to the court below, as they do here, upon different records. The court treated the cases as though the two records constituted a joint record applicable to both cases, and petitioner presents the cases here jointly. See *Butler* v. *Eaton*, 141 U. S. 240, 243, 244; *Dimmick* v. *Tompkins*, 194 U. S. 540, 548; *Washington & Idaho R.* v. *Coeur d'Alene Ry. & Navigation Co.*, 160 U. S. 101, 103; *deBearn* v. *Safe Deposit & Trust Co.*, 233 U. S. 24, 32; *West Ohio Gas Co.* v. *Public Utilities Commission of Ohio (No. 1)*, 294 U. S. 63, 70-71; cf. *Reed* v. *Allen*, 286 U. S. 191, 198, 199.

The Hall suit is for an infringement of Claim 1 of the patent, and the James suit for infringement of Claims 1, 2, 3 and 5. Claims 1, 2 and 3 are claims for a method of incubation of a plurality of eggs. Claim 5 is a claim for an apparatus adapted to the use of the method and is of significance in the present litigation only if a method claim is sustained. Claim 1 may be taken as typical of the other method claims. In *Smith* v. *Snow*, *supra*, its essential elements were stated to be (p. 8):

"(a) the arrangement of the eggs at different levels in staged incubation in a closed chamber, having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture; (b) the application to the eggs of heated air in a current created by means other than variation of temperature; and (c) as marking the boundaries of the claim, the current of air is to be of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature whereby the air will be vitalized, moisture conserved, and the units of heat carried from the eggs in the more advanced stage to those in the less advanced."

Staged incubation is the successive setting of eggs in the same incubator at brief intervals. At different stages in the course of

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tions of the Smith patent which preceded the decision in Smith v. Snow, *supra*, see 294 U. S. at 3, Note 1, the Hastings defense was not urged. Since the decision in the Snow case the defense has been interposed in suits in the district courts, Smith v. Street (Dist. Ct. for Minn.), Smith v. Sims (Dist. Ct. for Indiana) and it has recently been sustained by the Supreme Court of Canada, in The King v. The Smith Incubator Co., (1937) ——.

the three weeks period of incubation the eggs have different temperatures, those in the earlier having lower temperatures than those in the later stages. When subjected to a temperature approximating that of body heat, the eggs of the earlier stages absorb heat and those of the later stages give off heat. It was pointed out in the opinion in the *Snow case* that a demonstrated advantage of the Smith method over that of the earlier type of incubator, in which there was no propelled current of air, is that it facilitates the continuous operation of the incubator through staged incubation, and makes it possible in the process of incubation to increase the number of eggs in a single incubator from a few hundred to many thousands.

To avoid infringement, it was insisted in the *Snow* case that the claim was restricted, by the specifications and drawings of the patent, to use of the method in an apparaus by which the propelled current of heated air was first brought in contact with the more advanced eggs. In rejecting that contention the opinion pointed out that neither the claim itself, construed in the light of the specifications, nor the successful operation of the method, required the arrangement of the eggs in any particular order; that the continuous circulation of air of appropriate temperature in a closed chamber, called for by the claim, served to equalize the temperature at the desired degree by carrying heat units from the more advanced eggs of high temperature to the less advanced eggs of lower temperature, regardless of the particular order in which it passed the eggs of different stages. We said (p. 14):

"the claim does not call for a particular order or arrangement of the eggs in staged incubation in the incubator, or that the propelled current should reach them in any particular order, or that it should be guided, controlled or directed by any particular means, or in any particular manner other than that it should be of sufficient velocity to produce the results prescribed by the claim."

Thus construed, infringement of the patented method could not be avoided nor anticipation of it denied by showing that the challenged use was with different arrangements of the eggs or with a different structure, for guiding or controlling the propelled current of air within the closed chamber, from any exhibited in the specifications and drawings of the patent.

To establish the Hastings prior use respondents rely on the proof of his construction of an incubator in Brooklyn, New York, early in

1911, and its use in the hatching season in the early months of that year and of 1912, and on proof of his construction of another in Muskogee, Oklahoma, in 1911, and its use in 1912 and 1913. They offer documentary corroboration in more or less contemporary articles in published journals and in a patent application with its supporting documents, filed in the patent office in 1911.

Without stopping to state the evidence in detail, it is established by the testimony of Hastings, abundantly corroborated, and not seriously denied, that, apart from the setting of eggs in staged incubation, which will be presently discussed, these incubators employed all the elements of the Smith method, and that their operation was successful in the sense that they were each used for hatching eggs for two successive seasons and that the percentage of the hatches was comparable to that of the smaller still air incubators then in use. Hastings' incubators were closed chambers, with restricted openings. A current of heated air was propelled by a motor driven fan in such manner as to come in contact with the eggs placed within the chamber in stacks of trays, and to return to the fan by means of which it was continuously recirculated. See *Smith* v. *Snow, supra,* 19, 20; *Waxham* v. *Smith,* 294 U. S. 20, 22. Both incubators were of large capacity. That in Brooklyn was built for 6,000 eggs, although it does not appear that it ever contained more than 2,000 eggs at any one time, and that in Muskogee was for 30,000 eggs. It is plain that Hastings built and operated incubators suitable for the use of the Smith method, but petitioner sharply challenges the contention that he did use that method in either of them. It is said that there is no convincing proof that eggs were ever placed in the Brooklyn incubator in staged incubation, and that the structure of the other and the manner of its use were such as to show that the Smith method as we have described it was not employed. These are the crucial issues.

Hastings built and operated the Brooklyn incubator for Davis, who conducted a poultry farm as the means of supplying chickens for a restaurant which he also operated. After Hastings left Davis' employ in May, 1911, the latter operated the incubator during the season of 1912. Subsequently he went out of the poultry business and dismantled the incubator. Hastings testified, specifically and in detail, that the eggs were placed in the Brooklyn incubator in staged incubation. Davis, corroborated to some extent by his wife,

testified that the eggs were placed in the incubator at twice a week intervals, when they were delivered, at the rate of one or two crates a week, by the poultryman from whom they were purchased. The eggs were placed in trays in the incubator chamber where they were exposed to a current of heated air under thermostatic control. The air, maintained at a practically uniform temperature, was continuously circulated throughout the chamber by means of an electric fan. This oral testimony, if taken at its face value, would show that the Smith method was used in the Brooklyn incubator with eggs in staged incubation. But without corroboration, it is insufficient to establish prior use, *The Barbed Wire Patent*, 143 U. S. 275, 284; *Deering* v. *Winona Harvester Works*, 155 U. S. 286, 300; *Eibel Process Co.* v. *Minn. & Ontario Paper Co.*, 261 U. S. 45, 60, and we turn to the documentary evidence that Hastings knew the method of the patent and used it in his Brooklyn structure.

Before 1908 Hastings had had an extensive experience in poultry culture. In 1908 and 1909 he was in the service of the Department of Agriculture, and in the course of his duties he inspected many poultry plants and experimental stations operating incubators. He was the author of a book, "The Dollar Hen", published in 1909, in which he described a procedure for the incubation of eggs. It spoke of an incubator in which "At hatching times the eggs are spread out in trays in a special hatching room, which is only large enough to accommodate chicks in the amount of one-sixth of the incubator capacity, for twice a week delivering or one-third if weekly deliveries are desired." It also described an incubator in which "All temperature regulation is by means of air heated (or cooled as the case may be) outside of the egg rooms and forced in to the egg rooms by a motor driven cone fan, maintaining a steady current of air, the rate of movement of which may be varied at will. The air movement maintained will always be sufficiently brisk, however, to prevent an uneveness (*sic*) of temperature in different parts of the room." The reference to an incubator in continuous operation, for deliveries once or twice a week, and to temperature regulation of the egg chamber by a propelled current of heated air, moving at a velocity sufficient to maintain an even temperature, shows that Hastings had the conception of staged incubation long before he built the Brooklyn incubator.

On May 3, 1911, while he was in Davis' employ, and when the Brooklyn incubator was in operation, Hastings filed an applica-

tion for a patent, Serial No. 624,885. Documents in support of the application filed as late as July 1911, give Hastings' address as that of Davis in Brooklyn. The application discloses a chamber with restricted openings in which the eggs are placed and through which a steady current of air, heated to a uniform temperature, is propelled by a constantly moving electric fan, so as to circulate throughout the chamber. Although the application taught the use of fabric or perforated partitions for the purpose of causing an even distribution of the current of air, it specified that the invention was "not limited to any particular circulation or movement of the air and by the use of the fan the gravity drafts may be overcome and the air caused to move in any desired direction." The application was prepared by Hastings, but upon its rejection by the examiner, he sought the aid of counsel who, on May 24, 1912, amended the claim and filed a statement in explanation of it, stating that they had derived data and information from a practical hatchery of large capacity then being operated by the applicant.

In this statement it was pointed out that "the temperature of the eggs themselves varies in accordance with the stage of their development and the gaseous emanations tend to produce vitiated conditions which exert a marked influence upon the eggs themselves and especially upon the adjacent eggs, if the eggs are at different stages of their development"; that "in a large hatchery where many hundreds and even thousands of eggs are being continually advanced in the process of incubation the ordinary means for causing the circulation of air by convexion currents through and in the incubating chamber has been demonstrated as being totally inadequate, and this is believed to be one of the principal reasons why, up to the present time, hatcheries of large capacity have proven to be practical failures." And finally it was stated that Hastings had "discovered that the temperature and gaseous stratification in the incubating chamber must be overcome by a mechanically forced circulation of the air which will insure a correct and uniform influence of the air upon all of the eggs in the incubating chamber, and this forced circulation must be such as to overcome the counteracting influence of the eggs upon the air when said eggs are in the different stages of incubation."

In the brief of counsel on appeal to the Board of Examiners-in-Chief, dated December 30, 1912, these points were elaborated and

explained. It was stated: "The problem has been to enable the incubating operations to be carried on continuously, if so desired, with eggs at all stages of development, and with all of a vast number of eggs subjected to the same temperature and atmospheric conditions best adapted for the development of the embryo." It was pointed out that "during the initial stage of incubation the eggs absorb heat whereby their temperature is raised, but during the final stages the vital processes generate heat, and in practice it is found that with vast numbers of eggs assembled in a single compartment and with eggs at all stages of incubation but very little extraneous heat need be supplied, because the eggs in the later stages of development supply the necessary heat for the eggs in the earlier stages of development. In practice, however, a source of heat is always maintained in order to permit of proper regulation."

It was then explained that the "temperature stratification in the egg chamber" is overcome "through the provision of a mechanically operated air forcing means which would force a rapid circulation of air through the whole collection of eggs in the chamber and past the heater. The mechanical air forcing means is an essential factor, if heat is to be conserved and the conditions maintained uniform." And later it was said: "It is through the instrumentality of these elements that the temperature and gaseous stratification of the air in the chamber is overcome and the eggs are uniformly subjected to the influence of air of the same temperature and composition."

The brief also quoted from a statement of Hastings, which, after observing that temperature stratification may be overcome in a hatching chamber holding many thousands of eggs by applying to them a mechanically impelled blast of air, says:

"In the Hastings hatchery, a current of air is blown past each and every egg at the rate of thirty feet per minute and this rapidly moving air quickly bringing the temperature of the egg to approximately that of the air. This method of heating keeps the temperature of the eggs in the advanced state of incubation down within a few degrees of that of the air, the exact difference being regulated at will by adjusting the speed of the fan. When properly adjusted the same blast of air used to heat fresh eggs does equally well for eggs in the advanced stages just as the same temperature of the body of the hen incubates the eggs at all stages of development, without recourse on the hen's part to the 'hatching fever', erroneously supposed to explain the high temperature of eggs at a more

advanced stage of development. Owing to this fact eggs at all stages may be handled simultaneously with uniformly good results."

He also mentioned the introduction of moisture into the current of air by the use of a spray or the introduction of outside air at the fan.

We think it plain that at the time these documents were filed the essential elements for hatching eggs in staged incubation, as they were later claimed in the Smith patent, were known to Hastings, and that he was familiar with a structure capable of employing that method. They afford convincing corroboration of the oral testimony that the incubator in use in Brooklyn immediately preceding the filing of the application, and both incubators in use during its pendency, employed the method of the Smith claim. Whether Hastings knew fully and precisely the scientific principles involved in the procedure thus outlined is immaterial. It is enough if he knew and used the method with operative success. *DeForest Radio Co.* v. *General Electric Co.*, 283 U. S. 664, 686. He did know the method of setting eggs in staged incubation in a closed chamber and continuously circulating through them a current of moistened air at an appropriate temperature, and he knew that the advantages of the use of this method over the type of incubator in which there were no mechanically propelled currents of air, were that it facilitated the continuous operation of the incubator and the simultaneous incubation in a single chamber of a greatly increased number of eggs.

The disclosures made in the Hastings brief were so complete that they might well have been used in support of the Smith claim. Pressed to their conclusion, they would have warranted award of the patent later granted to Smith. See *Smith* v. *Snow, supra*, 14-16. While the Patent Office file on the abandoned claim is not relied on as a prior publication, see *The Corn-Planter Patent*, 23 Wall. 181, 210-211; cf. *Alexander Milburn Co.* v. *Davis*, 270 U. S. 390, 400, 402, it is competent and cogent evidence to determine the nature and date of the invention which the inventor claims to have embodied in working form, see *The Corn-Planter Patent, supra*, 211; *United States Blind Stitch Mach. Corp.* v. *Reliable Mach. Works, Inc.*, 67 F. (2d) 327, 328 (C. C. A. 2d); Walker, Patents (6th ed., 1929), §§ 97, 98.

In 1911, Hastings induced Lieber, a local lawyer and business man of Muskogee, Oklahoma, and another, to organize a corporation for the promotion of the Hastings method of incubation. Under its auspices Hastings constructed there an incubator of 30,000 egg capacity in the latter part of 1911 and directed its operation during the 1912 hatching season. Its operation was continued by an associate in the season of 1913. The general plan of its construction and mechanical operation as testified to by Hastings is abundantly corroborated by disinterested witnesses and contemporary photographs and publications describing it. The principal witnesses are Lieber, who furnished the money for the enterprise, Peabody, the electrical contractor who installed the fan and other electrical equipment of the incubator, and Hickox, manager of the local electric light company which supplied the current for the incubator. In 1912, Hickox took photographs of the incubator in operation, and prepared a written description of it. These were produced at the trial.

The uncontradicted evidence is that the incubator consisted of a large room in which there were a series of stacks of egg trays with wire mesh bottoms. Each stack, having a capacity of 5,000 eggs, was placed in a separate compartment. There was a corridor in front of the trays, giving access to the stacks, which, in operation, were closed on the corridor side by removable shutters. A motor-driven fan, placed at one end of the incubator, propelled a current of air over a moisture pan, thence through a passage at the back of the egg trays into contact with a heating pipe under thermostatic control. From that point it passed into a passageway directly above the stacks of egg trays, thence downward through the trays to a passage beneath them, through which the current was returned to the fan in continuous circulation. A number of other witnesses, having no connection with the Hastings enterprise, including three called by petitioner, saw the incubator in operation and corroborate the testimony as to its main features; the presence within the incubator of thousands of eggs, placed in stacks or trays, hatched by the circulation through them of a fan-propelled heated current of air.

An article giving some account of the Hastings incubator, prepared by an editor of Poultry Culture and published in that journal for February, 1912, mentions the use of two flumes carrying

the current of air from the fan, only one of which brought the air into contact with the heater. It speaks of a use of a means for controlling temperature of the air passing to each egg compartment, by mixing in proper proportions the flow of air from the two flumes. The existence of such a double conduit is not corroborated by any witness or any document, and is explicitly denied by Lieber, testifying in behalf of petitioner in the *Stone* case, made a part of the present record, and by Hastings. Peabody, who installed the electrical equipment, and Hickox, who prepared a contemporary written description of the incubator, make no mention of it. Drawings showing a single passageway carrying the current of air to the egg stacks were identified as accurate by Hastings, Lieber and Peabody. We conclude that, whatever experimental proposals or installations may have been made, the incubator was used with a single air passage above the egg compartments.

All the witnesses agree that the incubator was commercially operated during the hatching seasons of 1912 and 1913, and that it hatched different batches of eggs placed in it with varying success. The hatches of the eggs furnished by some customers were failures. Others were successful. One of petitioner's witnesses testified that the hatches never exceeded 50%. Lieber estimated that 50% was the average, with some people getting none and others getting 80%. Hastings, who in the Canadian suit testified that the average was 40%, stated that some settings ran up to 70%. There is no testimony of any mechanical failure of the incubator after the initial trials of it, as a result of which an electric blower was substituted for the fan of lesser power. In 1912, Hastings departed for Texas, where he started another incubator. After operating the incubator through another hatching season, Lieber, his financial backer, abandoned the enterprise.

As with the Brooklyn incubator, the critical issue is whether that in Muskogee was used with eggs in staged incubation in the manner of the Smith claim. It is established beyond doubt that eggs in different stages were in process of incubation there at the same time. The incubator was used in large measure for "custom hatching." At frequent intervals, patrons brought their eggs in relatively small quantities to be placed in the incubator for hatching, and received at the end of the hatching period their share of the newly hatched chicks.

The testimony of Hastings that staged incubation was employed in the Muskogee structure is corroborated by this course of business and by the contemporaneous statements and brief filed with his patent application. He testified that eggs of different stages were sometimes, though not always, placed in the same compartment of the incubator. The Poultry Culture article of February, 1912, states, after describing the use of the fan-propelled current of heated air in the incubator: "eggs at all stages can be placed in the same trays of the Hastings hatchery, with little or no injury. Mr. Hastings hatched several thousand eggs under such conditions in his Brooklyn plant last year."

Petitioner stresses the point that in the Muskogee incubator, the stacks of egg trays were concededly placed in separate compartments, with openings at the top having slide doors which could be used like a valve for regulating the volume of air flowing into each compartment. Hastings testified that the slide doors were used to cut down the supply of air when there were few or no eggs in a compartment and that they were left open when the compartment was substantially full of eggs. Petitioner points to this and to some testimony by Hastings and Lieber that the slide doors could be used to regulate the temperature in each compartment through control of the volume of air passing through them, and to testimony by Lieber that the eggs, as received, were first placed in one compartment and then at intervals, as other eggs came in, were moved from one compartment to another, and that the doors were used to control variations of temperature in the different compartments.

From this the inference is drawn that only eggs of the same stage were placed in any one compartment, and from the inference it is argued that they were not set in staged incubation. But even if the inference is correct, it establishes only that a special method or device to guide and control the air current was used, not that staged incubation was wanting. The presence or absence of a device for controlling the current of air within the incubator is no part of the Smith claim. Our opinions in *Smith* v. *Snow, supra,* and *Waxham* v. *Smith, supra,* were careful to point out that infringement of the method could not be avoided by using it in conjunction with such a device. The presence of the device in the Muskogee incubator did not foreclose anticipation if the method was used. Since the circulating current of air passed repeatedly into the compartments in the Muskogee structure and came in con-

tact with the heating pipe and with the eggs in the several stacks of trays, the tendency of the operation was to equalize the temperature and to carry heat units from the more advanced to the less advanced eggs. This is the method of the patent and it was employed in the Muskogee structure whether the trays of eggs of different stages were placed in the same or different compartments.

The patent was sustained in the *Snow* and *Waxham* cases, *supra*, only by establishing that neither the arrangement of the eggs, nor the particular order in which the propelled current should reach the eggs, nor the manner in which it was guided or controlled, is part of the patent claimed. It was this construction of the claim which gave a new significance to the Hastings incubators, different from any recognized by previous decisions. The petitioner, having sought and obtained a broad construction of his claim, cannot now narrow it so as to avoid anticipation by showing that the claimed method was used in a particular form of structure not claimed. It was the method thus defined which Hastings used, regardless of the particular structure which he devised to guide and control the current of air in his incubator, or the order in which it came into contact with the heater and eggs of different stages. It is immaterial that his structure for using the method was neither the best possible nor as skilfully designed or used as that later employed by Smith. *Pickering* v. *McCullough*, 104 U. S. 310, 319; cf. *Telephone Cases*, 126 U. S. 1, 531, 536.

In view of this conclusion it is unimportant whether Hastings used the method in his Brooklyn incubator. But we think the testimony of its use there is sufficiently corroborated. His statement in "The Dollar Hen", already quoted, published before the Brooklyn structure was erected, shows clearly that he contemplated the continuous operation of an incubator with the eggs set in staged incubation so that they would be hatched for deliveries once or twice a week, by a procedure substantially that of the Smith claim. The circumstances attending the Brooklyn use, which called for the setting of eggs at frequent intervals in an incubator of large capacity, the structure exhibited in Hastings' patent application, the subsequent course of the application in the Patent Office, and finally the renewed effort at Muskogee embodying the same principles, although with an immaterial variation in structure, and the fact that both incubators functioned, are convincing evidence that

Hastings knew and used in appropriate combination, both in Brooklyn and in Muskogee, the essential elements of the Smith claim. They support the heavy burden of persuasion which rests upon one who seeks to negative novelty in a patent by showing prior use. See *Radio Corporation of America* v. *Radio Engineering Laboratories*, 293 U. S. 1, 7, and cases cited.

Petitioner urges, and we have considered, numerous other objections to the sufficiency of proof of the Hastings prior use. The only one calling for any comment is the suggestion that the Brooklyn and Muskogee enterprises were not commercially successful. Commercial success may turn the scale when invention is in doubt, *Paramount Publix Corp.* v. *American Tri-Ergon Corp.*, 294 U. S. 464, 474; *DeForest Radio Co.* v. *General Electric Co.*, *supra*, 685, and the want of it may, in some circumstances, be evidence of want of operative success. But here Hastings by the use of a method which we have sustained as an invention, *Smith* v. *Snow*, *supra*, has attained the particular results described by the patent. He knew the method and used it in a device capable of employing it. In such circumstances want of commercial success, which the record suggests may have been due to lack of technical and business skill, is not an indication that there was no prior use.

Upon the records now before us we must conclude, as did the Supreme Court of Canada upon a similar record (Footnote 1, *supra*), that Hastings antedated Smith. The Smith method was "known or used by others in this country before his invention or discovery thereof." 35 U. S. C., § 31.

Affirmed.

Mr. Justice VAN DEVANTER took no part in the consideration or decision of these cases.

A true copy.

Test:

Clerk, Supreme Court, U. S.